



# Competitive Energy Services Weekly Market Summary

October 9 - 13, 2017

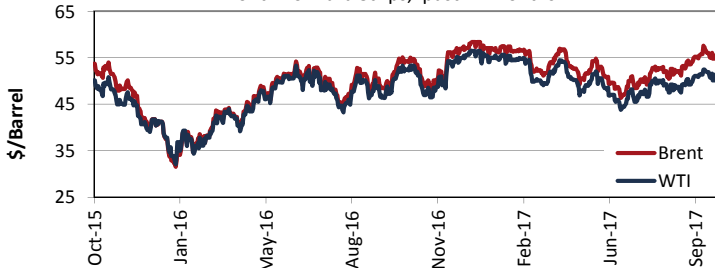
## Synopsis of Last Week's Energy Markets

Near-term WTI contracts gained 3-4% last week as US crude stocks fell and OPEC bumped up its projections for 2018 crude oil demand. Also contributing to the bullish sentiment is Iraq's surprise seizure of oil fields in the Kurdish region in northern Iraq. Natural gas prices rose 5% last week amid lingering cooling demand and slightly lower-than-average storage levels. Forecasts for this winter indicate that weather could follow a La Niña pattern, bringing frigid temperatures that could deplete stockpiles.

## Oil Market

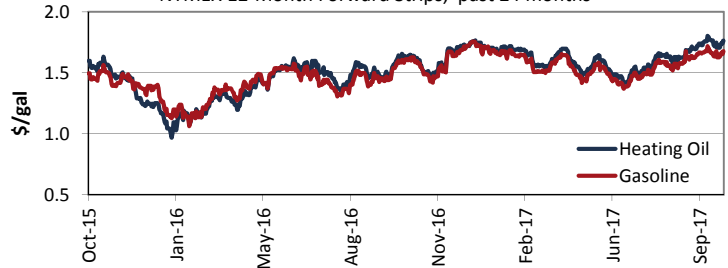
### Crude Oil - WTI & Brent

12-Month Forward Strips, past 24 months



### Heating Oil & Gasoline

NYMEX 12-Month Forward Strips, past 24 months



NYMEX WTI	last close	previous week	24-month high	24-month low
12 month strip, \$/bbl	\$52.03	\$50.08	\$56.70	\$32.40
date	10/13/17	10/6/17	1/6/17	1/20/16
change from last close		3.9%	-8.2%	61%

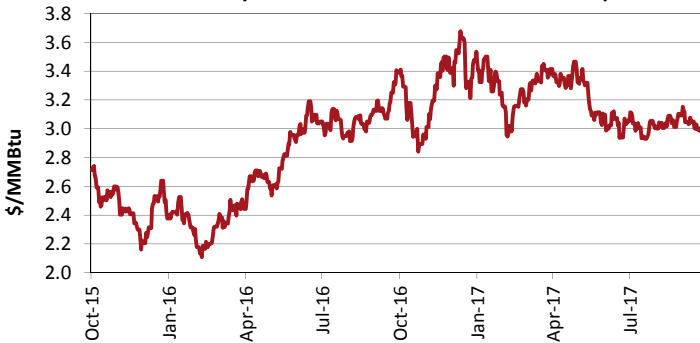
NYMEX Heating Oil	last close	previous week	24-month high	24-month low
12 month strip, \$/gal	\$1.76	\$1.70	\$1.80	\$0.97
date	10/13/17	10/6/17	9/25/17	1/20/16
change from last close		3.4%	-2%	82%

US STORAGE (in million bbls)		crude oil
domestic stocks as of	10/6/17	462
gain / loss from previous week		-2.7
comparison to historic range		within

US STORAGE (in million bbls)		distillate	propane	gasoline
domestic stocks as of	10/6/17	134	79	221
gain / loss from previous week		-1.5	0.9	2.5
comparison to historic range		within	within	within

## Natural Gas Market

### NYMEX Henry Hub Futures: 12 Month Forward Strip

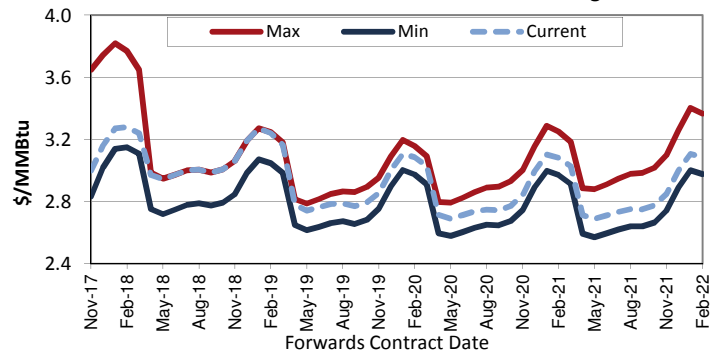


NYMEX PRICING	last close	previous week	24-month high	24-month low
12 mo. strip, \$/MMBtu	\$3.07	\$2.99	\$3.70	\$2.11
date	10/13/17	10/6/17	12/28/16	2/25/16
change from last close		2.6%	-17%	46%

CES SCORE	
12 month	34
18 month	24
24 month	27
36 month	35

The Score provides a measure of how current prices compare to their 52-week range. A score close to 0 indicates that current prices are close to their 52-week highs; a score close to 100 indicates that current prices are close to their 52-week lows.

### NYMEX Natural Gas Forwards vs. 1 Year Range



FORWARDS	12 month	18 month	24 month	36 month
strip (\$/MMBtu)	\$3.07	\$3.09	\$3.01	\$2.96

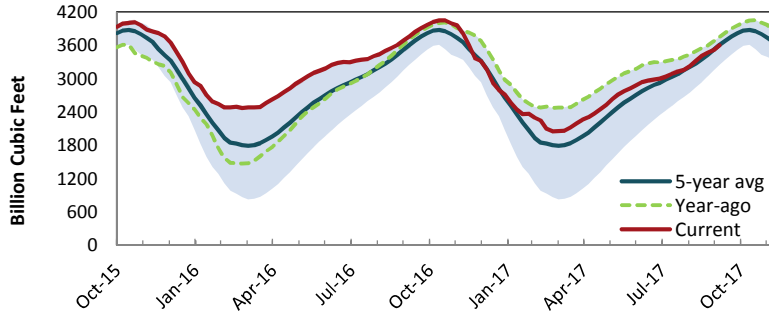
Natural gas futures are useful for both natural gas and electricity consumers because they drive electricity pricing in many U.S. markets. This chart compares the current natural gas price for each forward month on the NYMEX exchange to the highest and lowest prices for the same month over the past 12 months.



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### Natural Gas Storage

Working Gas in Underground Storage Compared With 5-Year Range



This chart shows the amount of natural gas in storage at each point in time (red line) compared to the highest, lowest, and average amounts in the past 5 calendar years.

EIA Storage Data	date	Bcf	+ / -
Previous Stock Level	9/29/17	3,508	
Most Recent Stock Level	10/6/17	3,595	
Year-ago Stock Level		3,748	-4.1%
5-Year Average Stock Level		3,603	-0.2%
Most Recent Net Change	10/6/17	87	
Year-Ago Net Change		79	
5-Year Average Net Change		87	

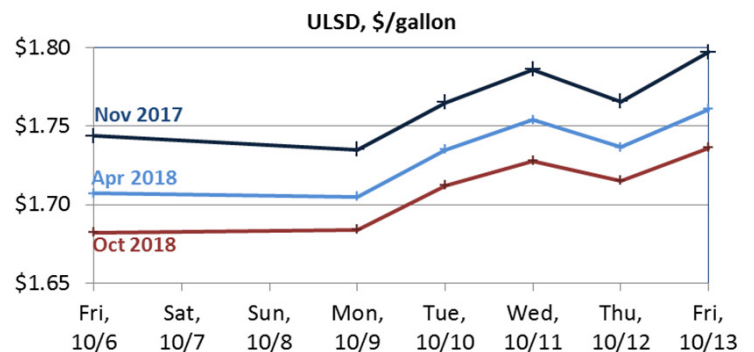
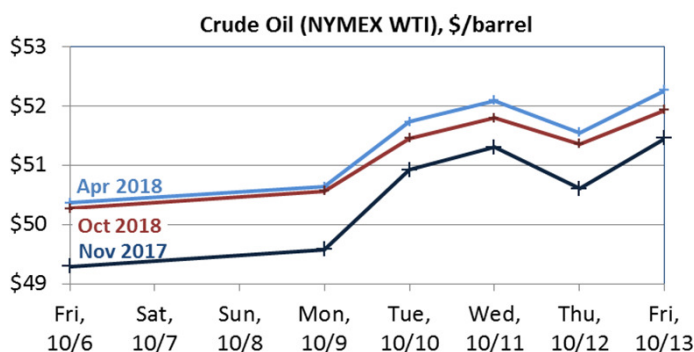
Data Source: EIA <http://tonto.eia.doe.gov/oog/info/ngs/ngs.html>

### Market Assessment

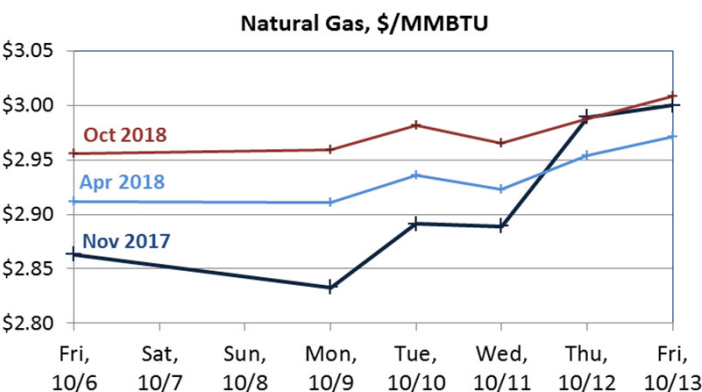
#### NYMEX Futures Summary Statistics

	Last Expired Contract	Exp. Date	Price	Prompt Month	Price	Most Expensive Next 12 Months	Price	Least Expensive Next 12 Months	Price	Winter Avg (Dec17-Mar18)
Crude oil	Oct-17	9/20/17	\$50.41	Nov-17	\$51.45	Apr-18	\$52.26	Nov-17	\$51.45	\$52.00
Heating oil	Oct-17	9/29/17	\$1.81	Nov-17	\$1.80	Nov-17	\$1.80	Aug-18	\$1.74	\$1.79
Natural gas	Oct-17	9/27/17	\$2.97	Nov-17	\$3.00	Feb-18	\$3.28	May-18	\$2.94	\$3.24

#### NYMEX End-of-Day Settlements



Crude oil prices jumped last week as domestic stockpiles fell for a third straight week and Baker Hughes Inc. reported that the oil rig count has decreased by 25 rigs (3%) in the last 10 weeks. Internationally, OPEC raised its global crude oil demand outlook for 2018 and Saudi Arabia promised to reduce output in November to its lowest since January 2015. Markets were continuing to climb on Monday as Iraq launched a surprise assault on the Kurds in northern Iraq, successfully seizing key oil fields. In a controversial referendum in September, the Kurds had voted for independence from Iraq. Furthermore, President Trump refused to certify the Iran nuclear agreement, which could pave the way for the reinstatement of economic sanctions against a major oil producer.



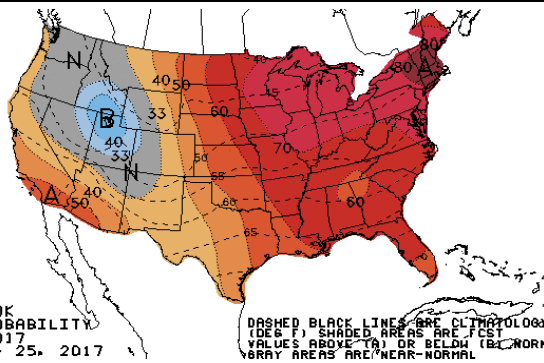
Natural gas prices recovered from the previous week's lows as mixed weather patterns across the country brought a combination of both heating demand (largely in the West) and late cooling demand (largely in the East). Near-term futures in particular saw strong gains: November contracts jumped nearly 14 cents to close at \$3.00 on Friday afternoon. According to NOAA forecasts, there is an increasing likelihood that this winter could bring La Niña conditions, and with it lower-than-average temperatures that would boost heating demand and draw down stocks. This alongside high exports could deepen the storage deficit relative to the average; inventory levels are currently in line with average following a typical gain of 87 Bcf this week.

The National Weather Service near-term forecast calls for much warmer-than-normal temperatures for almost all of the continental US, especially the eastern half. The natural gas market scores on page 1 declined from the previous week. Clients with electricity or natural gas contracts expiring in 2017 or 2018 should consult with a CES representative for customized guidance.

**National Weather Service Forecast**



6-10 DAY OUTLOOK  
TEMPERATURE PROBABILITY  
MADE 15 OCT 2017  
VALID OCT 21 - 25, 2017



**6 - 10 Day Forecast for Oct 21 - 25**

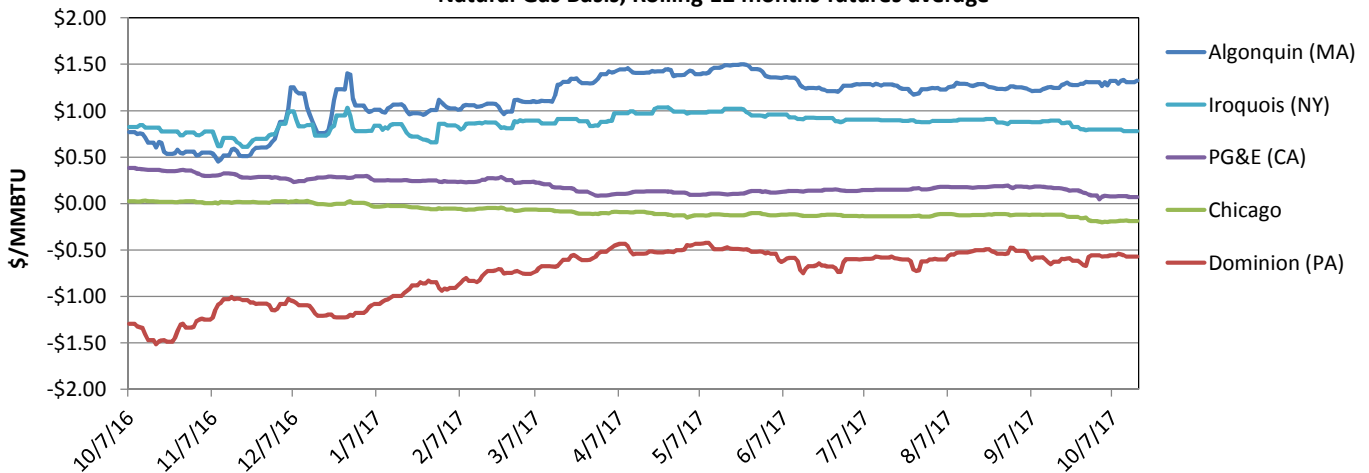
This map depicts forecasted temperatures for next week compared to the long term average. The blue/purple areas are forecast to be colder than normal, white areas are normal, and yellow/orange/red areas are warmer than normal. Abnormally hot weather in the summer and cold weather in the winter can increase the price for natural gas, oil, and electricity.

Source: Chart from the National Weather Service Climate Prediction

**Natural Gas Basis Futures**

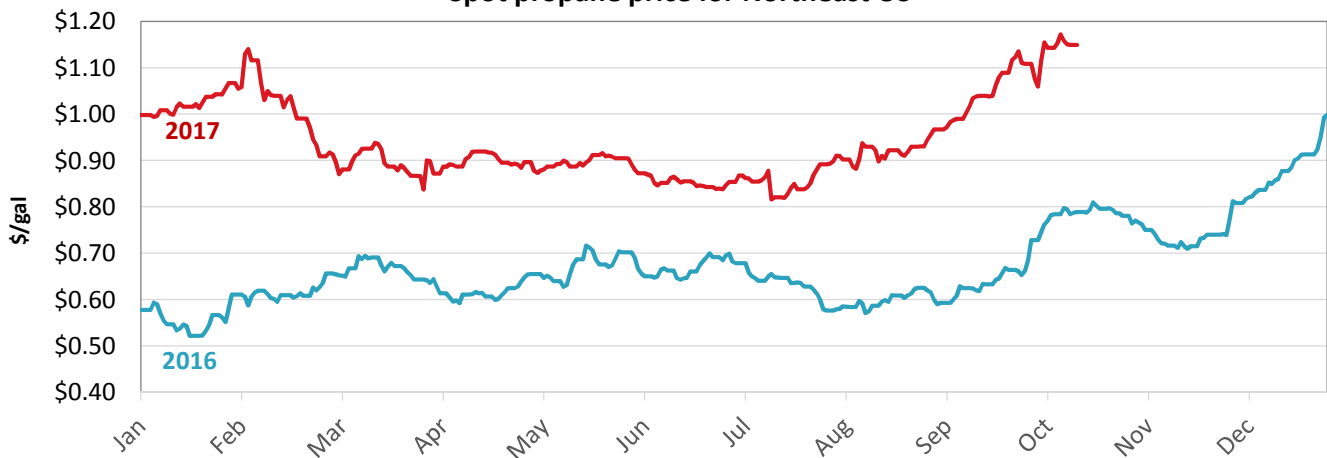
Basis is the price differential between Henry Hub, located in Erath, Louisiana, and the liquidity point closest to the end-user. Because Henry Hub is used as the delivery point for NYMEX natural gas futures contracts, the cost of using natural gas in any geographic region of the country can be approximated by adding the basis price for the appropriate liquidity point to the NYMEX futures contract. Basis prices can be negative (indicating that natural gas at a liquidity point is cheaper than at the Henry Hub) or positive (indicating that natural gas at a different liquidity point is more expensive than at the Henry Hub). Basis prices are a key component of regional electricity and natural gas costs.

**Natural Gas Basis, Rolling 12 months futures average**



**Propane**

**Spot propane price for Northeast US**



**Spot Prices**

		<b>New England ISO Real Time Power Pricing By Zone (\$/MWh)</b>								
		10/9/17	10/10/17	10/11/17	10/12/17	10/13/17	10/14/17	10/15/17	<b>Avg</b>	
<b>Power (\$/MWh)</b>	Maine RT On Pk	70	39	44	39	43			47	
	Maine RT Off Pk	32	23	26	26	34	34	21	28	
	NH RT On Pk	71	39	44	39	44			47	
	NH RT Off Pk	18	23	17	20	39	22	42	26	
	Vermont RT On Pk	70	39	43	38	42			46	
	Vermont RT Off Pk	33	23	26	25	32	33	21	28	
	Connecticut RT On Pk	69	39	43	38	43			46	
	Connecticut RT Off Pk	33	24	26	25	33	34	22	28	
	Rhode Island RT On Pk	68	38	43	37	42			46	
	Rhode Island RT Off Pk	32	24	27	26	33	33	22	28	
	NE Mass RT On Pk	70	39	44	38	43			47	
	NE Mass RT Off Pk	33	24	27	26	33	34	22	28	
	SE Mass RT On Pk	69	39	43	38	42			46	
	SE Mass RT Off Pk	33	24	26	26	33	33	22	28	
	WC Mass RT On Pk	70	39	44	38	43			47	
	WC Mass RT Off Pk	33	24	27	26	33	34	22	28	
		<b>New York ISO Real Time Power Pricing By Zone (\$/MWh)</b>							<b>Avg</b>	
<b>Power (\$/MWh)</b>	Capital RT On Pk	45	30	28	27	28			31	
	Capital RT Off Pk	25	20	16	15	12	24	22	19	
	Central RT On Pk	44	31	26	26	26			31	
	Central RT Off Pk	24	19	15	14	12	19	7	16	
	Hudson RT On Pk	48	37	29	28	29			34	
	Hudson RT Off Pk	26	21	16	15	13	24	18	19	
	Mohawk RT On Pk	43	30	27	26	26			30	
	Mohawk RT Off Pk	24	19	15	14	12	19	7	16	
	Milwood RT On Pk	48	37	29	28	29			34	
	Milwood RT Off Pk	26	21	16	15	13	24	18	19	
	NYC RT On Pk	49	40	38	28	29			37	
	NYC RT Off Pk	27	23	17	15	13	24	18	19	
			<b>PJM Real Time Power Pricing By Zone (\$/MWh)</b>							<b>Avg</b>
	<b>Natural Gas \$/MMBtu</b>	Eastern Hub On Pk	58	38	31	31	31			38
		Eastern Hub Off Pk	23	23	21	20	20	20	20	21
		Western Hub On Pk	55	42	30	31	31			38
Western Hub Off Pk		25	24	23	23	23	23	23	23	
PPL Zone On Pk		57	36	30	18	18			32	
PPL Zone Off Pk		20	18	19	17	17	17	17	18	
AEP RT On Pk		38	35	32	31	31			34	
AEP RT Off Pk		27	26	25	26	26	26	26	26	
Chicago RT On Pk		35	28	29	36	36			33	
Chicago RT Off Pk		20	24	23	28	28	28	28	26	
New Jersey Hub On Pk		66	40	31	20	20			36	
New Jersey Hub Off Pk		22	21	21	20	20	20	20	20	
		<b>California ISO Real Time Power Pricing (\$/MWh)</b>							<b>Avg</b>	
<b>Natural Gas \$/MMBtu</b>		SoCal Edison RT On Pk	47	35	33	44	38			39
	SoCal Edison RT Off Pk	30	29	28	27	34	30	28	29	
			10/9/17	10/10/17	10/11/17	10/12/17	10/13/17	10/14/17	10/15/17	<b>Avg</b>
	Henry Hub, LA	2.86	2.90	2.93	2.91	3.01			2.92	
	TZ6, MA	2.34	2.49	2.64	2.75	2.55			2.55	
	Algonquin, MA					2.75			2.75	
	Chicago Hub, IL	2.71	2.75	2.79	2.76	2.77			2.76	
	New York, NY	1.28	2.82	1.05	0.59	0.53			1.26	
	Dominion South, PA	1.09	1.06	0.92	0.32	0.41			0.76	
	Opal Hub, WY	2.48	2.50	2.58	2.59	2.61			2.55	
	PG&E Citygate, CA	3.05	3.08	3.13	3.16	3.17			3.12	
	Kern River Deliveries	2.60	2.62	2.70	2.70	2.72			2.67	